GV435
.H33

Hastings, William Walter

V 435
H33
Copy 1

No._____

The Measurements & Anthropometric Table

Of_____

EXPLANATION

1 The table on the other side of this sheet shows how you compare with women from 17 to 30 years of age.

2 There are twenty-three columns, headed with bold figures indicating per cents. In each column such a percentage of the whole number of women had the development indicated, or less.

3 If you are of medium height and well developed in every particular, the line across the table, which joins the dots showing development of individual qualities, will follow closely the black figures of the 50 per cent. column. The better your measurements are, the more nearly straight will be this line which represents them. If tall or short, this table shows simply how you compare in each quality with the typical woman. Her development is the mean (average) of all heights and ages.

4 The 25 per cent. and 75 per cent. columns, as well as the 50 per cent. column, are set off by bold lines to mark the limits of normal deviation from the 50 per cent. line or type. When your development in some particulars is below the 25 per cent. line, it may be necessary for you to take special corrective exercises. The physical director will point out any special lack, and tell you how to correct it under "Prescription of Exercise."

5 If your Vitality Coefficient (V.C.) is very low, you require plenty of out-of-door exercise. Take only such corrective gymnastics and games as the physical director or your family physician may encourage. For women whose height is between the 25 per cent. and 75 per cent. lines, the use of coefficients may prove valuable.

HEALTH HINTS

(*Emphasize the hints checked* [√] *by the physical director.*)

"The first requisite to success in life is to be a good animal." Health, strength and vitality do not come by chance but by obedience to natural laws. Study health.

1 Take special breathing exercises for from five to ten minutes out of doors or before an open window upon rising, before retiring and during exercise. Ventilate your room day and night. Cover well and sleep with windows open, even in winter.

2 Eat regularly, lightly, slowly of plain *food*, using plenty of grain and fruits. Use variety in different meals, avoid unwholesome mixtures at the same meal. Stimulants are unnatural and unnecessary.

3 Drink freely of pure *water* between meals. Take a glass or more of cool water upon rising and retiring. Have a regular hour for evacuation.

4 The best time to *bathe* is immediately after moderate exercise. Do not cool off before bathing. The more frequent the bath, the shorter it should be. Rub vigorously after a cool bath, secure a fine glow, become thoroughly alive. Use a graded bath, beginning with warm and finishing with a cool dash.

Never take a cold bath when exhausted, out of breath, within two hours after a full meal or just before such a meal. Wait about ten minutes after a bath before going out of doors.

5 Do not wear a tight belt or tight *clothing*, especially during exercise. It restricts circulation. Adapt weight of clothing to the season and the weather.

6 Rest is as essential as food. Take eight hours or more of sleep.

7 Preserve your *eyesight*. Read only by a good light and let it fall over your left shoulder. Bathe the eyes frequently with clean, cool water.

8 *Exercise* regularly, vigorously with enthusiasm, viz.: Have a definite time for it, give it all your energy, enjoy it to the full.

Emphasize games and all out of door life. If necessary be a crank about some game or games which is approved as good for *you* by the physical director.

Avoid exercise forbidden by the director or your physician. Avoid exhausting feats of strength. Take no vigorous exercise within two hours after a full meal. Never exercise until exhausted.

As long as you are able to be about, you will profit by exercise. You require it as much as food. Adapt it to your need as you do the food.

DEFECTS

Measurements *Posture, Deformity, etc.*

2500-10-1-04—Form O.-101

APR 3 1903

ANTHROPO

FOR WOMEN SEVENTEEN (

VITAL PER CENT.	190.... Mo Da Hr	1	2	5	10	15	20	25	30	35
Weight		367 809	386 851	414 913	439 968	455 1003	469 1034	480 1059	490 1080	500 1102
Height		1463 576	1479 582	1503 592	1524 600	1538 606	1549 610	1559 614	1568 617	1576 620
Trunk Length		598 235	602 237	609 240	615 242	619 244	622 245	625 245	627 247	630 248
Bd. Chest Con.	apr. 8, 1905 a 175482	206 81	210 83	216 85	221 87	225 89	228 90	230 91	232 91	234 92
Bd. Chest Exp.		221 87	226 89	234 92	241 95	246 97	250 99	253 100	256 101	259 102
Bd. Waist		179 70	183 72	190 75	196 77	200 79	203 80	206 81	208 82	211 83
Dp. Chest Con.		134 53	138 54	143 56	147 58	150 59	152 60	154 61	156 61	157 62
Dp. Chest Exp.		151 59	155 61	161 63	166 65	170 67	173 68	175 69	177 70	179 70
Dp. Abdomen		132 52	136 54	142 56	147 58	151 59	154 61	156 61	158 62	160 63
Girth Chest 9th R. Con.		586 231	595 234	608 239	620 244	628 247	634 250	640 252	645 254	649 256
Girth Chest 9th R. Exp.		610 240	622 245	639 252	655 258	665 262	674 265	681 268	687 270	694 273
STRENGTHS										
Lung Capacity { C. C. / cu. in. }		1320 806	1440 879	1630 995	1800 1098	1910 1166	2000 1220	2080 1269	2150 1312	2210 1349
Forearm R.		188 414	192 423	198 437	203 448	207 456	210 463	212 467	214 472	216 476
Forearm L.		184 406	188 414	194 428	199 439	203 448	206 454	208 459	210 463	212 467
Back		123 271	175 386	253 558	322 710	368 811	405 893	437 963	465 1025	492 1085
Legs		158 348	257 567	357 787	464 1023	535 1179	592 1305	641 1413	684 1508	726 1601
Shoulders Retractors		87 192	103 227	127 280	149 328	163 359	175 386	185 408	194 428	202 445
SPECIAL										
Length Head		157 62	161 63	165 65	170 67	173 68	175 69	177 70	179 70	180 71
Breadth Head		134 53	136 53	138 54	140 55	142 56	143 56	144 56	145 57	146 57
Breadth Shoulders		324 128	328 129	336 132	342 135	346 136	350 138	353 139	356 140	358 141
Breadth Hips		272 107	278 110	287 113	295 116	301 118	305 120	309 122	312 123	315 124
Girth Neck		272 107	277 109	282 111	288 114	292 115	295 116	297 117	299 118	301 119
Girth Chest Con.		631 258	642 263	659 269	674 275	684 279	692 282	699 285	705 287	711 290
Girth Chest Nor.		652 256	663 261	682 268	698 274	709 279	718 282	725 285	732 288	738 290
Girth Chest Exp.		715 282	727 286	744 293	759 299	769 303	777 306	784 309	790 311	796 314
Girth Waist		526 207	537 211	553 218	567 223	576 227	584 230	590 233	596 235	601 237
Girth Hips		783 308	797 314	819 322	839 330	852 335	862 339	871 343	879 346	886 349
Girth Forearm R.		192 76	196 77	201 79	206 81	209 82	212 84	214 84	216 85	218 86
Girth Forearm L.		188 74	192 75	197 78	202 79	205 80	208 81	210 82	212 83	214 84
Girth Right Arm		202 79	207 81	216 85	223 87	228 89	233 91	236 92	239 94	242 95
Girth Left Arm		198 78	203 80	212 84	219 87	224 88	229 90	232 91	235 93	238 94
Girth Right Biceps		227 89	232 91	241 95	248 98	253 100	257 101	261 102	264 104	267 105
Girth Left Biceps		222 87	227 89	236 93	243 95	248 98	252 99	256 100	259 102	262 103
Girth Right Thigh		436 172	447 176	465 183	481 189	491 193	500 197	507 200	513 202	520 205
Girth Left Thigh		434 171	446 175	463 182	479 188	489 192	498 196	505 199	511 201	518 204
Girth Right Calf		279 110	285 112	294 116	302 119	308 121	312 123	316 124	319 125	322 127
Girth Left Calf		278 110	284 112	293 116	302 119	307 120	311 123	315 124	318 125	321 127

COEFFICIENTS	
R. H. C.	055
O. S. H. C.	143 75
V. C.	7 86
V. W. C.	164

Copyright, 1904, by William W. Hastings.

Measurements of..... Taken...

TRIC TABLE

) THIRTY (30) YEARS OF AGE

45	50	55	60	65	70	75	80	85	90	95	98	99	±D*	190.... Mo Da Hr
51 7	52 6	53 5	54 4	55 2	56 2	57 2	58 4	59 7	61 3	63 8	66 6	68 5	4 6	
140	1160	1179	1199	1217	1239	1261	1288	1316	1351	1407	1468	1510	101	
591	1598	1605	1613	1620	1628	1637	1647	1658	1672	1693	1717	1733	3 9	
526	629	632	635	638	641	644	648	653	658	667	676	682	15	
634	636	638	640	642	645	647	650	653	657	663	670	674	1 1	
249	250	251	252	253	254	255	256	257	259	261	264	265	5	
238	240	242	244	246	248	250	253	255	259	264	271	275	10	
94	95	95	96	97	98	99	100	101	102	104	107	108	4	
264	266	269	271	273	276	279	282	286	291	298	306	311	1 3	
104	105	106	107	108	109	110	111	113	115	117	120	122	5	
215	217	219	221	223	226	228	232	234	238	244	251	255	1 1	
85	86	86	87	88	89	90	91	92	94	96	98	101	5	
161	162	164	165	167	168	170	172	174	177	182	186	190	8	
63	64	65	65	66	66	67	68	69	70	72	73	75	3	
183	185	187	189	191	193	195	198	200	204	209	216	220	10	
72	73	74	74	75	76	77	78	79	80	82	85	87	4	
164	166	168	170	172	174	176	179	181	185	190	197	201	10	
65	65	66	67	68	69	69	70	71	73	75	78	79	4	
658	662	666	670	675	679	684	690	696	704	716	729	738	2 2	
259	261	262	264	266	267	270	272	274	277	282	287	291	9	
005	710	716	721	727	733	739	746	755	765	781	798	810	2 9	
278	279	282	284	286	289	290	294	297	301	307	314	319	11	
330	2390	2450	2510	2570	2630	2700	2780	2870	2980	3150	3340	3460	310	
122	1458	1495	1532	1568	1605	1647	1696	1751	1818	1922	2038	2111	189	
220	**222**	**224**	**226**	**228**	**230**	**232**	**235**	**237**	**241**	**246**	**253**	**257**	**10**	
85	489	494	498	503	507	511	518	523	531	542	558	567	22	
116	218	220	222	224	226	228	231	233	237	242	249	253	**10**	
76	481	485	489	494	498	503	509	514	523	534	549	558	22	
41	56-5	58 9	614	638	665	693	725	752	808	877	955	1007	128	
93	1245	1299	1354	1407	1467	1527	1598	1658	1781	1933	2105	2220	282	
01	83 8	87 5	913	950	992	1035	1084	**1141**	1212	1319	1419	1518	197	
66	1847	1929	2013	2094	2187	2281	2390	2515	2672	2908	3128	3347	434	
117	225	233	240	248	256	265	275	287	301	323	347	363	4 0	
78	496	514	529	547	564	584	606	633	664	712	765	800	88	
84	185	186	188	190	191	193	195	197	200	205	209	213	8	
72	73	73	74	75	75	76	77	78	79	81	83	84	3	
47	148	149	150	150	151	152	153	154	156	158	160	162	4	
58	58	58	59	59	59	60	60	60	61	62	63	63	2	
63	365	367	370	372	374	377	380	384	388	394	402	406	12	
43	144	145	146	147	148	149	150	151	153	156	158	160	5	
21	324	327	330	333	336	339	343	347	352	361	370	376	15	
26	128	129	130	131	132	134	135	136	139	142	146	148	6	
05	307	309	311	313	315	317	319	322	326	331	337	342	10	
20	121	122	123	123	124	125	126	127	128	131	133	135	4	
22	727	732	738	743	749	755	762	770	780	795	812	823	28	
04	296	298	300	302	305	307	310	313	317	323	329	334	11	
49	755	760	766	772	778	785	792	801	812	828	847	858	30	
05	297	299	301	304	306	309	312	315	319	326	333	338	12	
07	812	817	823	828	834	840	847	855	865	880	897	909	28	
78	320	322	324	326	328	331	334	337	341	347	354	358	11	
41	616	621	626	631	636	642	648	656	665	679	695	706	26	
41	243	244	246	248	251	253	255	259	262	267	274	278	10	
00	907	914	921	928	935	943	952	962	975	995	1017	1031	36	
54	357	360	362	365	368	371	375	379	384	392	400	406	14	
221	**223**	**225**	**226**	**228**	**230**	**232**	**234**	**237**	**240**	**245**	**251**	**254**	**9**	
87	88	89	89	90	91	92	92	94	95	97	99	100	4	
17	219	221	222	224	226	228	230	233	236	241	246	250	9	
85	86	87	87	88	89	90	91	92	93	94	97	98	4	
97	**250**	**253**	**255**	**258**	**261**	**264**	**267**	**272**	**277**	**284**	**293**	**298**	**14**	
07	98	99	100	101	102	104	105	107	109	112	115	117	6	
43	246	249	251	254	257	260	263	268	273	280	289	294	14	
06	97	98	99	100	101	103	104	106	107	110	114	116	6	
72	**275**	**278**	**280**	**283**	**286**	**289**	**293**	**297**	**302**	**309**	**318**	**323**	**14**	
07	108	109	110	111	112	114	115	117	118	121	125	127	6	
67	270	273	275	278	281	284	288	292	297	304	313	318	14	
05	106	107	108	109	110	112	113	115	117	119	123	125	6	
31	**536**	**541**	**547**	**552**	**559**	**565**	**572**	**581**	**591**	**607**	**625**	**636**	**29**	
09	211	213	215	217	220	222	225	229	233	239	246	250	11	
28	534	540	545	550	556	563	570	579	589	605	622	634	29	
28	331	334	337	340	343	346	350	354	360	368	377	383	15	
09	130	131	132	133	135	136	137	139	141	144	148	150	6	
27	330	333	336	339	342	345	349	353	358	367	376	382	15	
09	130	131	132	133	135	136	137	140	141	144	148	150	6	

	072						091										
	158 77						174 46										
	11 40						15 83										
	217						277										

*In the column headed ± are indicated the probable deviations for each measurement.

..... 19.....

Physical Director.

LIBRARY OF CONGRESS
0 029 712 961 2

*Date*_____

PRESCRIPTION OF EXERCISE

FOR

I Posture and Carriage_____

II Trunk Dimensions _____

III Organic Function_____

IV Injury, Atrophy and Deformity_____

V Recreation _____

VI General Directions_____

II. Second Prescription *Date*_____

III. Third Prescription. *Date*_____

COEFFICIENTS

Chest expansion and height are in centimeters; lung capacity is in litres. If the lung capacity is in cubic inches, divide by 61 to reduce it to litres. If the other measurements are in inches, use a Seaver measuring rod to transpose into centimeters, or divide by .393.

The formula for the Respiratory-Height Coefficient is:

$$\frac{\textit{Chest Expansion} \times \textit{Lung Capacity}}{\text{Height}}$$

This product of Chest Expansion and Lung Capacity divided by Height shows the amount of respiratory strength and function for each centimeter of height.

The Formula for the Organic Strength-Height Coefficient is:

$$\frac{\textit{Height Sitting} \times \frac{1}{2}\,(\textit{Breadth of Chest} + \textit{Breadth of Waist}) \times \textit{Depth of Trunk}}{\text{Height}}$$

The half sum of Breadth of Chest contracted and expanded is used for Breadth of Chest; the half sum of Depth of Chest contracted and expanded is used for Depth of Chest; the half sum of Depth of Chest and Abdomen is used for Depth of Trunk.

This coefficient represents the relative size and power of the vital organs of the trunk for each centimeter of height. It is approximately the ratio of the solid contents of the trunk to the height.

The Vitality Coefficient (V.C.) is the product,—*R. H. C. x O. S. H. C.*

It is the product of the total exhibition of respiratory strength by the total strength of the vital organs as indicated by their bulk. It is a merging of all the capacity for endurance into one. It is generally conceded that vitality varies in direct ratio with each one of the physical qualities used in the calculation of these coefficients, with lung capacity, chest expansion, height sitting, breadth of chest, breadth of waist and depth of chest; then the combination of all these qualities should produce a most satisfactory general index of vital strength and function.

The Vitality Coefficient calls attention to the fact that vitality is high medium or low; the Respiratory-Height Coefficient indicates whether respiratory function is responsible for the condition; the Organic Strength-Height Coefficient whether trunk capacity is responsible; the graphical representation of development upon the table indicates the particular measurement or measurements which are responsible for the character of the coefficients, and shows where development is needed.

$$\frac{\textit{V. C.}}{\text{Weight}}$$

The formula* for the Vital-Weight Coefficient is:

It shows the ratio of vital function to the body-bulk to be sustained; that is to say roughly, the relation of the purveying organs to the organism. Of two men of the same weight, the man with large trunk and good respiratory power should have the greater vitality.

*Note—The formulas are based on the metric system. For formulas adapted to the common system see "Manual for Physical Measurements", Hastings.

LIBRARY OF CONGRESS
0 029 712 961 2

Hollinger Corp.
pH 8.5